

average of these three, given by such an authority, should satisfy the most exacting.

The average of the examples given by Simpson, gives a percentage of .556. The percentage which Rafinesque gives for *viridis* (5 to 9) is .555.

*A closer agreement is not to be found in the history of the Naiades!*

Note—The translation of Poulson contains many errors.

1. The dimensions, one and a half inch is that of the *altitude*, not as in Poulson.

2. The lateral tooth is *thin*, not slender.

3. The cardinal tooth is not *divergent*, but is *decurrent*—quite a different thing!

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#### TURRITIDAE VS. TURRIDAE.

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BY S. STILLMAN BERRY.

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The unfortunate rehabilitation of the nondescript names of the Museum Boltenianum has brought about as one direct consequence the overturning of the time-honored generic name *Pleurotoma* Lamarck in favor of Bolten's *Turris*. Accepting the change as most seem to have been impelled to do, it thereupon follows that since *Pleurotoma* was the typical genus of its family, a change in the generic name necessitates a similar alteration in the family name to conform. The reigning regulation in Article 4 of the International Code of Zoological Nomenclature is ostensibly so explicit regarding such matters as the formation of family names that at first thought one would not anticipate much disagreement among students in its specific application. In the instance under consideration, however, two opposing views have found their way into print.<sup>1</sup> Both cannot be equally correct, and since the family is an abundant one and frequently referred to, while a general principle of orthography is likewise involved, it becomes a matter of some importance to determine which of the two, as we may adopt the spelling *Turritidae* or *Turridae*, is strictly the proper form to use. Curiously enough

<sup>1</sup> NAUTILUS, v, 23, pp. 131, 144.

each variant appears to date back to the brothers Henry and Arthur Adams, who, although using the genus *Turris* as of Humphrey rather than Bolten, wrote the family name *Turritidae* in the first volume of their great review of molluscan genera,<sup>1</sup> and then later corrected it to *Turridae*.<sup>2</sup> Their more mature judgment is therefore plainly in favor of the simpler spelling. It is mainly very recently that the insertion of the extra syllable has been revived.

The essential facts of the case are believed to be fairly stated thus:

1. "The name of a family is formed by adding the ending *idae*, the name of a subfamily by adding *inae* to the stem of the name of its type genus."<sup>3</sup>

2. The name of the type genus of the particular family in question is *Turris*, presumably an exact transcription of the Latin noun *turris*, meaning in English, "tower."

3. The name of the family in question is variously spelled *Turridae* and *Turritidae* in the literature. The spelling *Turriidae* has also been suggested for consideration.

4. In Latin grammars (*e. g.*, Allen and Greenough), *turris* is often given as the example *par excellence* of an *i*-stem noun, the stem therefore ostensibly *turri-*.

5. A recent proponent of the spelling *Turritidae* writes that he "submitted the question of '*Turridae versus Turritidae*' to two expert Latinists, who, after due consideration of all the data, concluded that, while either was correct, the latter term under the circumstances was to be preferred. Here the matter now appears to rest.

Now the writer has been one of those adhering to the spelling *Turridae*, and being still unconvinced of his error, yet eager to arrive once for all at a correct and therefore permanent usage, he submitted the case essentially as outlined above to a friend, a well-known student of Latin, Professor B. O. Foster of Stanford University, adding thereto the following specific queries:

<sup>1</sup> Genera of Recent Mollusca, v. 1, p. 87.

<sup>2</sup> *Op. cit.*, v. 2, p. 614.

<sup>3</sup> International Rules of Zoological Nomenclature, Article 4 (Smallwood edition, p. 4).

(1) What is the stem of *Turris*? (2) Is it possible to insert a *t* in the second syllable of this stem without changing the nature of the word itself? (3) In view of the facts as stated, and in strict adherence to Article 4 of the International Rules, what do you consider to be the preferred orthography for the family name based on this genus? (4) Do you consider any alternative spellings permissible?

Professor Foster's reply is so detailed and withal so interesting that with his kind permission I am reproducing the major portion of it here, especially since it seems conclusive regarding the points at issue.

"The stem of *turris* is *turri*; and the ending *ides* would give us *turriides*. But it is a rule of word-formation that 'the final vowel of a stem is lost before the initial vowel of a suffix, *e. g.*, *aur-eus* ('golden') from *auro-* (*aurum*).' (Hale and Buck, Latin Grammar, 205.2.) Therefore we may at once rule out *Turriidae* as a possible derivative, in favor of *Turritidae* (I give the plural, as this seems to be what you want; the singular would be *turritides*).

"The ending in question is really a Greek suffix, used to denote that the name in question means the son (or descendant) of the person designated by the simple noun. Thus *Turritides* would mean 'son of a Tower,' and *Turritidae*, 'the sons of a Tower,' or 'the Tower family.' When I say that it is Greek, I do not mean that it is not found in Latin; it is found frequently, but always, I think, in Greek patronymics (or Latin patronymics consciously formed in imitation of the Greek ones), which the Latin writer (usually a poet) has occasion to introduce into his text. Examples would be: *Pelides* 'son of Peleus,' *Philyrides* 'son of Philyra.'

"As to the form *Turritidae*, it is obviously meant as a derivative from the adjective *turritus*. The stem of this adjective is *turrito*, but, as above, the final short vowel would be dropped before the initial vowel of the ending *-idae*, and *Turritidae* is therefore correctly formed. But it is to be observed that the suffix, or ending in question is employed in Latin authors only in composition with the names of persons, nouns substantive, and that *Turritidae* would therefore be decidedly anomalous.

We might translate it 'family of a the-turreted,' but the fact remains that the Latin authors would not have said anything like that. . . . Unless there exists some zoological reason for preferring a word that would mean 'members of the family of the thing that is provided with towers' to one meaning 'members of the Tower family,' I should much prefer the shorter and more Latin (or may I say less *un-Latin*?) *Turridae*.'

The facts therefore seem decisive that *Turritidae* is an impossible construction as a direct derivative of *Turris*, and that *Turridae* is correct and should be used. The spelling *Turrinae* for the typical subfamily logically follows by the same reasoning.

REDLANDS, CALIFORNIA, December 29, 1919.

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#### ON CERTAIN OF LINK'S NAMES IN THE MITRIDAE.

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BY J. R. LE B. TOMLIN.

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The rarity of Link's work entitled *Beschreib. Nat. Samml. Univ. Rostock* (1807) is doubtless the reason why his specific names are but little known. Coming as it does before Lamarck or Dillwyn began to make their extensive contributions to nomenclature, it will, I believe, eventually be found to have anticipated these two authors in many cases. Link in the above work lists 20 Mitras, of which the following are noteworthy:

Pt. iii, p. 127. *Voluta stictica* Link; *V. papalis* B. Gmel., 3459; Mart. iv, 147, 1356.

It is curious that this shell was not differentiated by any 18th century author. Most of them considered it a var. of *papalis*; Bolten confused it with *cardinalis*. The synonymy is: 1807. *V. stictica* Link.

1811 (early in). *Mitra abbotis* Perry.

July, 1811. *Mitra pontificalis* Lamarck.

p. 127. *Voluta digitalis* Link; *V. pertusa* J. Gmel. 3458; Chem. x, 151, 1432, 1433.

This specific is generally ascribed to Dillwyn. Synonymy as follows: